

New Technologies in the Microbiology Lab Help Improve Operational Efficiencies

Case Study *Grady Health Systems*

Perspectives by Tim Drake
Microbiology Lab Manager



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Challenge	Solution	Impact
Need to reduce the amount of time associated with organism identification and antibiotic susceptibility testing to improve patient management without compromising quality of the results	Leveraging bioMérieux's microbiology technology advancements	Ability to deliver accurate, rapid, actionable information to physicians for better patient management, with a goal of reducing turnaround time by 50 percent
Need to streamline workflow to handle required testing volume with limited microbiology staff hours	Incorporating automated solutions from bioMérieux	Maximized operational efficiencies and lab staff allocation, saving eight hours of lab staff time per week, freeing lab staff to handle additional testing and responsibilities while decreasing time to result by 24 hours

Challenge

- Grady Health Systems in Atlanta, Georgia, is one of the largest public health systems in the United States, comprised of the 953-bed Grady Memorial Hospital, six neighborhood health centers, Crestview Health & Rehabilitation Center and Children's Healthcare of Atlanta at Hughes Spalding. Consistent and efficient operations are critical to the success of the organization and the quality of the care and services offered to its patients. The hospital's microbiology laboratory, which receives and is responsible for testing approximately 600 specimens per day, is faced with significant pressure to provide the highest quality patient test results in the shortest possible time, particularly given the rapid increase of multidrug resistant organisms and an ever-expanding list of superbugs responsible for potentially fatal infections.

"The quicker we are able to get important diagnostic information into the hands of our health care providers, the quicker those providers can make decisions that will improve their patients' care."

Providing physicians with information that is most relevant to the treatment decision-making process is a multistep approach that, historically, has taken **four or more days and multiple staff hours** to complete, creating a significant strain on a steadily shrinking microbiology work force. Finding ways to reduce the amount of hands-on and overall time required to give physicians the information they need to deliver accurate diagnoses and care plans is key to success.

- Tim Drake, Microbiology Lab Manager at Grady Memorial Hospital, feels this urgency on a day-to-day basis. With increased emphasis on providing organism identification and antibiotic susceptibility test results more quickly and with fewer staff hours, Tim and his colleagues at Grady continually are exploring new ways to improve the speed with which test results are delivered to physicians and shortening the bridge to antibiotic susceptibility testing without compromising quality or performance.

“As a teaching hospital, we take the opportunity to educate our peers – and serve as a role model for other community hospitals – very seriously. This is partially what drives us to continually evaluate new and better ways to serve our patients.”

Solution

- Tim and his colleagues at Grady have embraced the opportunity to improve operational efficiencies and workflow in the microbiology lab at Grady Health System by employing bioMérieux’s PREVI Isola™, PREVI™ Color Gram, BacT/ALERT®, VITEK® 2 and Etest® technologies to address the current challenges facing the microbiology lab and with the goal of helping to ensure the most rapid and reliable organism testing to physicians for better patient management. Additionally, the VITEK® Mass Spec currently is under evaluation (for Research Use Only).

Impact

With the new bioMérieux technologies and automated solutions in place, Tim and his staff noticed an immediate positive impact on lab workflow:

- Through use of the PREVI Isola™, the team has been able to achieve clearer plate streaks, including more colonies; preliminarily, this has helped minimize the need for additional subculturing, saving approximately eight hours per week in staff time and a full day in getting results into the hands of physicians.
- Gram-staining automation made possible by the PREVI™ Color Gram has improved the consistency and quality of slides, reducing potential variability among samples.
- The speed and quality of identification results achieved with the mass spec technology (in place for research use only) shows promise, with further evaluation under way.

Tim anticipates that he and his colleagues in the microbiology lab at Grady will further experience the positive impact of the new equipment on overall operational efficiency as the year progresses and evaluation continues.

“With these new technologies in place, Grady’s microbiology lab is state-of-the-art; other hospitals may have bits and pieces of new identification and susceptibility solutions, but having a fully automated, cutting-edge solution in place – start to finish – for its microbiologists and physicians is truly an advantage.”



**Tim Drake, Microbiology Lab Manager
Grady Memorial Hospital**

Tim Drake, ASCP, has more than 10 years of experience working in, managing and directing all aspects of a busy microbiology department, including writing policy, training, scheduling and budgeting. He has been the microbiology manager at Grady Health Systems, a JCAHO and CAP accredited hospital laboratory, since 2010.



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